



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,583	10/15/2003	Gregory M. Glenn	PA3387US	2329

7590 09/19/2008
CARR & FERRELL LLP
2200 Geng Road
Palo Alto, CA 94303

EXAMINER

POPE, DARYL C

ART UNIT	PAPER NUMBER
----------	--------------

2612

MAIL DATE	DELIVERY MODE
-----------	---------------

09/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/684,583	Applicant(s) GLENN ET AL.	
	Examiner DARYL C. POPE	Art Unit 2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 10, 13-15, 21, 26-29, 35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10, 13-15, 21, 26-29, 35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Response to Arguments

2. Applicant's arguments included in the Appeal Brief filed 5/30/2008, with respect to the rejection(s) of claim(s) 1-5,10,13-15,21,26-29, and 35-36 under Grube et al(Grube) in view of Lauber et al(Lauber) and Wade et al(Wade) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Kail, IV(5,959,529), Rogers et al(6,282,469), Wilson et al(5,400,246), and Lauber et al. Although the rejection under Grube and Wade have been rescinded, the examiner reserves the right to utilize these references at a later time, if necessary.

ART REJECTION:

Claim Rejections - 35 USC § 103

3. Claims 1-5,10,13-15,21,26-29, and 35-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kail, IV(5,959,529) in view of Rogers et al(6,282,469), Wilson et al(5,400,246), and Lauber et al(2004/0090950) and Examiner's Official Notice.

-- In considering claim 1, the claimed subject matter that is met by Kail, IV(Kail) includes:

1) the remote sensor configured to obtain data is met by the external sensors(28b);

2) the battery configured to provide primary power is met by the power supply(42) such as batter for providing power for the components of the portable monitoring unit(12).

- Kail does not disclose:

1) the sensors configured to receive a command to enable or disable the sensor and obtain data that is of an environmental nature;

2) the control board including a microprocessor and a plurality of serial communication ports, one of the ports configured to receive and process the data from a variety of types of data collection devices, including the remote sensor, place the data into at least one packet, and transmit the packet from the board using wireless communications;

3) the solar panel configured to recharge the battery.

Although the use of a control board is not specifically stated in Kail, Kail does suggest use of a control board in the form of sensor interface unit(20) having a microprocessor(22) with multiple inputs and outputs(see: column 4, lines 19-22), including a external port(37) and external interface(30), both of which being suggested as serial communication ports which allows connection to compatible sensors(see: column 4, lines 29-39 and 56-57). As well, a first transceiver(26) which transmits data that has been gathered by the sensors(28) via wireless communication link(16) is included in the unit(20)(see: column 4, lines 21-29).

Use of a control board including a microprocessor and serial communication ports is well known in the art. In related art, Rogers et al(Rogers) teaches a system

Art Unit: 2612

using multipoint serial link data transmission protocols that allow communication between a control board and remote system sensors, wherein a sensor interface board(110) includes a microcontroller(114), and serial port(116) that provide a link to remote sensors(115)(see: Rogers, column 6, lines 11-38). Since Kail already suggests the use of a control board in the form of sensor interface unit(20), it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the sensor interface board(110) of Rogers, in place of the unit(20) of Kail, since this would have conserved space in the unit(12) by providing a stable platform for placement of the microprocessor(22), interface(30), port(37), and all other electronics as desired, onto a single unit.

Furthermore, with regards to the sensors obtaining data that is of an environmental nature and collection of data from a variety of types of data collection devices, although the specific types of sensors are not disclosed by Kail, Kail does suggest implementing specific sensors, such as chemical sensors, biological sensors, meteorological sensors, etc.(see: column 2, lines 22-27), that would obtain data that is of an environmental nature. Therefore, it would have constituted an obvious design choice to one of ordinary skill in the art at the time the invention was made to incorporate any of the above suggested sensors into Kail for the purpose of obtaining data that would have been of an environmental nature, since one of ordinary skill would have implemented sensors based on the particular environment that would have been desired to be monitored.

Art Unit: 2612

As well, although not disclosed by Kail, use of remote sensors configured to receive commands to enable or disable the sensor is well known in the art. In related art, Wilson et al(Wilson) discloses a peripheral data acquisition, monitor, and control system, wherein remote sensors are enabled to receive commands that allow enabling or disabling of the sensors(such as analog temperature sensor(70) or digital sensors(see: column 10, lines 22-30)), via use of the Master Control Program of the PC(12)(see: column 5, lines 42-59; column 6, lines 3-43). Since Kail teaches that the terminal(52) has the ability to request information be transmitted pertaining to a specific sensor of a specific monitoring unit(12)(see: column 7, lines 60 et seq), it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate any of the digital or analog sensors of Wilson, that are configured to receive commands to be enabled or disabled, into the sensors(28) of Kail, since this would have enhanced the ability to configure the system by allowing specific sensors to be controlled as desired, thereby conserving power in the system when specific sensors are not required to be active, prior to data being requested.

With regards to the transmission of at least one packet from the control board using wireless communications, although the specific use of the term packet is not utilized by Kail, Kail does suggest transmission of data packet via wireless communications, since the data pertaining to a specific sensor of a specific portable monitoring unit is requested and responded via wireless communications link(16)(see: column 7, lines 60 et seq).

Art Unit: 2612

Use of data packets being transmitted via wireless communications is well known in the art. In related art, Lauber et al(Lauber) discloses a wireless digital/analog data telemetry system which utilizes a microprocessor that places collected data from sensors into data packets to be transmitted via wireless communications(see: sec. [0123]). Since transmission of data via wireless communication is already taught by Kail, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the transmission of data packets as taught by Lauber, into the data transmissions of Kail, since this would have provided a reliable and efficient method of transmitting data via wireless communication.

With regards to the solar panel, the examiner takes Official Notice that in the remote sensor art, use of solar panels for recharging batteries is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate solar panels for recharging the batteries(42) of the unit(12), since this would have reduced cost in the system by alleviating the necessity of replacing batteries when their power in the batteries would have dissipated.

-- With regards to claims 2 and 3, upon incorporation of the digital and analog sensors of Wilson into the sensors(28) of Kail for the reasons as discussed in claim 1 above, the limitations of claims 2 and 3 would have been met.

-- With regards to claim 4, upon incorporation of the analog sensors into the sensors(28) as discussed in claim 1 above, it would have also been obvious to one of ordinary skill in the art at the time the invention was made to incorporate an analog to digital converter linked to the control board of Kail, since Kail suggests use of a digital

Art Unit: 2612

microprocessor(22) and transceiver(26)(see: column 4, lines 61 et seq), which thereby would have required the signals received from analog sensors to be converted to digital form in order to be process/transmitted.

-- With regards to claim 5, although the specific protocol utilized with the sensors is not disclosed by Kail, Kail does suggest use of serial or parallel communication interfaces for the sensors(28) and port(37)(see: column 4, lines 29-41). Use of various types of communication protocol, including RS-232 is well known in the art. In related art, Rogers teaches use of RS-232 protocol to allow communication between the microcontroller(114), within board(110), and the sensors(115)(see: column 6, lines 11-19). Since use of RS-232 protocol is well known as taught by Rogers, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the RS-232 protocol of Rogers into the serial communication of Kail, since this would have provided a well known and reliable means of communicating data between the devices in the system. Furthermore, it would have constituted an obvious design choice to one of ordinary skill in the art at the time the invention was made to substitute SDI12, 12C, and RS-432 protocols into Kail as desired, since one of ordinary skill would have readily recognized the advantage of each particular protocol over another to provide desired results in the system.

-- With regards to claim 10, the remote sensor comprising a temperature sensors is met by the temperature sensors(70) of Wilson that would have been incorporated into the system of Kail for the reasons as discussed in claim 1 above.

Art Unit: 2612

-- With regards to claims 13-15, since Kail already suggests incorporation of various types of sensors as discussed in claim 1 above, it would have constituted an obvious design choice to one of ordinary skill in the art at the time the invention was made to incorporate a voltage sensor that measures the voltage of a solar/battery system, a liquid level sensor, or any other sensor as desired, since the port(37) and interface(30) would have readily allowed connection with various remote sensors. Therefore one of ordinary skill would have recognized the advantage of utilizing any sensor as desired that would have provided desired monitoring results by the units(12).

-- With regards to claim 21, the data being transmitted to a base station is met by the data being transmitted to the central monitoring station(14).

-- With regards to claims 26-29, although not specifically taught by Kail, Use of data packets having N-byte wide messages is well known. In related art, Lauber teaches use of data packets having specific N-byte wide messages including a header block consisting of 10 bytes(see: sec. [0145-0146]). Since the use of N-byte wide messages is well known as taught by Lauber, it would have been obvious to one of ordinary skill in the art at the time the invention to incorporate N-byte wide messages into the system of Kail, and as well would have constituted an obvious design choice to incorporate messages having a maximum of 96, 512, or any amount of bytes as desired into the system of Kail, since one of ordinary skill would have readily recognized the amount of bytes that would have allowed the most efficient transmission of data in the system.

-- With regards to claims 35 and 36, Kail does not teach the use of a memory device configured to store the data. However, Kail does teach that the microprocessor is

Art Unit: 2612

provided with memory(44) which may be ROM, RAM, and/or mass storage device(see: column 5, lines 2-5). Inclusion of mass storage in the microprocessor suggest the intention to store some form of data. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the memory(44) to store data, since this would have facilitated transmission of data to the central monitoring station(14) upon request, since a storage device would have allowed a certain amount of data to be compiled prior to transmission of data to the device(14).

Furthermore, since Kail teaches that each particular unit(12) includes a unique identifier that allows specific communication between the station(14) and a specific unit(see: column 2, lines 59-63), it would have also been obvious to one of ordinary skill in the art at the time the invention was made to incorporate an identifier associated with the remote sensor such that data is stored based upon the identifier associated with that sensor, since this would have allowed the station(14) to request specific data from a specific sensor of a specific unit(12).

REMARKS:

Response to Arguments

4. Applicant's arguments with respect to claims 1-5,10,13-15,21,26-29, and 35-36 have been considered but are moot in view of the new ground(s) of rejection. With regards to applicant's arguments filed in the Appeal Brief, since the reference to Grube is no longer relied on as the primary reference in the examiner's rejection, the requirements of response to arguments under MPEP 707.07(f) have been satisfied.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DARYL C. POPE whose telephone number is 571-272-2959. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, DANIEL WU can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DARYL C POPE/
Primary Examiner, Art Unit 2612

DARYL C POPE
Primary Examiner
Art Unit 2612

/Daniel Wu/
Supervisory Patent Examiner, Art Unit 2612

Application/Control Number: 10/684,583
Art Unit: 2612

Page 11